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(11)

**EP 0 826 700 A3**

(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
20.12.2000 Bulletin 2000/51

(51) Int Cl.7: **C08F 8/24**, C08G 65/40,  
C08G 65/48, G03F 7/038

(43) Date of publication A2:  
04.03.1998 Bulletin 1998/10

(21) Application number: **97306206.0**

(22) Date of filing: **20.08.1997**

(84) Designated Contracting States:  
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE**

(30) Priority: **29.08.1996 US 705463**

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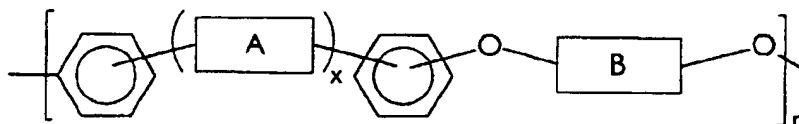
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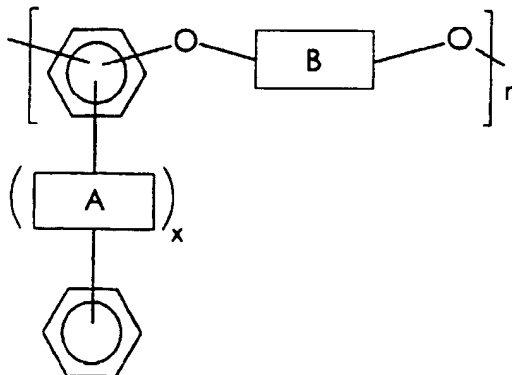
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(54) **Process for haloalkylation of high performance polymers**

(57) Disclosed is a process which comprises reacting a polymer of the general formula



or



wherein x is an integer of 0 or 1, A and B are specified groups, and n is an integer representing the number of repeating monomer units, with an acetyl halide and dimethoxymethane in the presence of a halogen-containing Lewis acid cat-

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alyst and methanol, thereby forming a haloalkylated polymer. In a specific embodiment, the haloalkylated polymer is then reacted further to replace at least some of the haloalkyl groups with photosensitivity-imparting groups. Also disclosed is a process for preparing a thermal ink jet printhead with the aforementioned polymer.



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# EUROPEAN SEARCH REPORT

Application Number  
EP 97 30 6206

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	EP 0 373 783 A (ICI) 20 June 1990 (1990-06-20) * the whole document *	1-10	C08F8/24 C08G65/40 C08G65/48 G03F7/038
Y	DE 29 27 838 A (NIPPON TELEGRAPH AND TELEPHONE PUBLIC CORP.) 24 January 1980 (1980-01-24) * claims 1,2 *	1-10	
Y	CHEMICAL ABSTRACTS, vol. 115, no. 22, 2 December 1991 (1991-12-02) Columbus, Ohio, US; abstract no. 233246t, page 26; XP000406896 * abstract *	1-10	
Y	& CS 266 062 A (K. JERABEK)	1-10	
D,Y	EP 0 197 723 A (XEROX CORPORATION) 15 October 1986 (1986-10-15) * claims 1-13; figure 4 *	1-10	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	DE 42 30 839 A (CIBA-GEIGY AG) 25 March 1993 (1993-03-25) * claims 1-12 *	1	C08F C08G G03F
A	DE 42 23 135 A (CIBA-GEIGY AG) 21 January 1993 (1993-01-21) * claims 1-12 *	1	
A	EP 0 001 879 A (ICI) 16 May 1979 (1979-05-16) * claims 1-14 *	1	
A	US 4 820 790 A (P. A. WINSLOW) 11 April 1989 (1989-04-11) * claims 1-5 *	1	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 30 October 2000	Examiner Permentier, W
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.92 (P4/C01)



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Application Number  
EP 97 30 6206

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	GB 2 064 802 A (POLAROID CORPORATION) 17 June 1981 (1981-06-17) * page 3, line 15 - page 5, line 17; claims 1-21 *	1	
A	DE 31 30 040 A (J. KASCHUBA) 17 February 1983 (1983-02-17) * page 7, line 8 - page 10, line 18; claims 1-7 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
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EPO FORM 1503 03/82 (P4/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-10-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 373783 A	20-06-1990	JP 2202518 A	10-08-1990
DE 2927838 A	24-01-1980	JP 1107695 C	13-08-1982
		JP 55011217 A	26-01-1980
		JP 56050263 B	27-11-1981
		CA 1166061 A	24-04-1984
		FR 2430965 A	08-02-1980
		NL 7905364 A, B,	14-01-1980
		US 4286049 A	25-08-1981
CS 266062 A	14-03-1989	CS 8800327 A	14-03-1989
EP 197723 A	15-10-1986	US 4601777 A	22-07-1986
		DE 3680694 A	12-09-1991
		JP 1987930 C	08-11-1995
		JP 7008569 B	01-02-1995
		JP 61230954 A	15-10-1986
		US RE32572 E	05-01-1988
DE 4230839 A	25-03-1993	NONE	
DE 4223135 A	21-01-1993	NONE	
EP 1879 A	16-05-1979	AT 380260 B	12-05-1986
		AT 648778 A	15-09-1985
		AU 534045 B	05-01-1984
		AU 3941678 A	06-03-1980
		CA 1117241 A	26-01-1982
		DE 2861696 D	29-04-1982
		DK 389478 A	08-03-1979
		ES 473151 A	01-04-1979
		IT 1099495 B	18-09-1985
		JP 1607984 C	13-06-1991
		JP 54090296 A	17-07-1979
		JP 60032642 B	29-07-1985
		US RE34085 E	29-09-1992
		US 4320224 A	16-03-1982
		JP 1555157 C	23-04-1990
		JP 59093724 A	30-05-1984
		JP 61010486 B	29-03-1986
		ZA 7804896 A	30-04-1980
US 4820790 A	11-04-1989	NONE	
GB 2064802 A	17-06-1981	US 4298675 A	03-11-1981
		AU 535907 B	12-04-1984

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 97 30 6206

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-10-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2064802 A		AU 6464080 A	11-06-1981
		CA 1143205 A	22-03-1983
		DE 3045447 A	19-06-1981
		FR 2471623 A	19-06-1981
		JP 1464855 C	10-11-1988
		JP 56094348 A	30-07-1981
		JP 63013530 B	25-03-1988
		NL 8006560 A	01-07-1981
DE 3130040 A	17-02-1983	NONE	